LOGGE T. Ca			BEGIN DATE 12-5-07	COMPLETION DATE 12-6-07	BOREHOL N2120										1)		IOLE ID			
DRILLII Greg		ONTRA	BOREHOL Offset					S	SURFACE ELEVATION 11.217 ft (NAVD88)											
DRILLII Mud)		DRILL RIG		lti-d	rill (tr	uck	١						В	OREHOLE	DIAM	ETER	
SAMPL	ER T	YPE(S)	SPT HAMI	Fraste Multi-drill (truck) SPT HAMMER TYPE Automatic, 140 lbs., 30-inch drop													in. (roc NCY, ER			
BOREH	OLE	BACKF	(1.4"), Shelby (2.8 ILL AND COMPLETION	GROUND	VAT								76.2% OTAL DEF	PTH OF	BORING	3				
-	Cen	nent G	Grout backfill		READINGS	3 T T	1		3.2							!	98 ft			
ELEVATION (ft)	Ð					Sample Location	mber	u e	Foot	(%)			Dry Unit Weight (pcf)	ngth	thod					
VATIG	DEРТН (ft)	rial				ole Lo	Sample Number	Blows per 6 In	Blows per Foot	Recovery ((%)	ture ent (%	Jnit W	Shear Strength (tsf)	Drilling Method Casing Depth					
ELE		Material Graphics		Description		Sam	Sam	Blow	Blow	Reco	RQD (%)	Mois	Dry (pcf)	Shea (tsf)	Drillir		Re	marks		
	1			ETE. VEL (GP), light gray, dry.											{					
9.22	2			h SAND (GC), loose, reddi	ish brown,										{					
9.22	3		GRAVEL is fine. [FILL	•											1					
7.22			brown, wet, with freque	vith CLAY (SP-SC), loose, ent CLAY lenses up to 1" t gments, occasional suban	hick,	M	S1	5 5	9	39										
7.22	5		GRAVEL. [HYDRAUL	IC FILL]	igulai iirie	М	S2	<u>4</u> 1	2	72					{	After sa 4'	ampling to	6', hole	e sloughe	d to
5.22	6		Lean CLAV with CANE	O (CL), medium stiff, browr	n moiet	\mathbb{H}		1 1							1					
5.22	7		SAND is fine. [BAY M	UD]		Ц									M					
3.22	8		Fat CLAY (CH), soft, g trace decayed vegetati	reenish gray, wet, trace fir ion, organic odor.	ne SAND,		U3		50 psi	87										
0.22	9																			
1 22						Ħ														
1.22	10		Grades with lenses of	SILT and fine SAND.			U4			93				TV = 0.18						
0.70	11														200					
-0.78	12					H									\triangleright					
.1.GLB 11/3/08 -2.78	13														00000					
5 -2.78 K	14														\triangleright					
FOR	15		SAND is fine to mediur	SP), medium dense, dark m, frequent white shell fra	gray, wet, gments,	M	S5	12 17	34	78					IIII					Ē
-4.78	16		slight cementation. [Ma	ARINE SAND]			S6	17	12	67					000					
× CAL	17					Å		5 5 7							000					
-6.78	18					Н		•							200					
RUP L	19																			
4 -8.78 2 -8.78	20		Grades with SANDY C	LAY lenses.		M	S7	9	20	78										F
1-2-08.	21						00	11 9	24	100					200					
-10.78	22		Gradae brown to velle	wich brown close		X	S8	3 5	21	100										
NOPLC NOPLC	23		Grades brown to yellow	мын ыюмп, сleaп.				16							200					E
CALIRANS FORMAT DOVIEDRIVE ARDPLOGS 11-2-08:GFU ARUP LIBRARY CALIRANS FORMAT 84.9-1-12-08:2FU 84.9-1-12-08:2	24														000					
Y LEDA	-25	11	(continued)									_			<u></u> _					
			Depart	ment of Transporta	tion			EPOR ORII			OR	RD.						HOLE ESB		
D C C C C C C C C C C C C C C C C C C C	F			n of Engineering Se chnical Services	ervices		4		5	OUN S.F.			ROU 101		POS 8.3/	TMILE /9.4		EA 1637	'01	
AANS			Georee	omilicai Sti VICES					Driv	ve R	Repla	acer	men	t Proje	ect					
CALII								RIDGE 4-16		ИВЕF			PARE Carr	D BY			DATE 11-3-	-08	SHEET 1 of	4

æ				T	l .											
ELEVATION (ft)	æ			Sample Location	Sample Number	므	-00t	(%)		Moisture Content (%) Dry Unit Weight	Shear Strength (tsf)	pod 4				
ATIC	Ħ.	lcs al		e Loc	e Nu	per	per F	ery ((%	it %	Stre	Met				
LEV	DEPTH (ft)	Material Graphics		ampl	ampl	Blows per 6 In	Blows per Foot	Recovery	RQD (%)	oistu onter ry ∪r	hear sf)	Drilling Method		_		
ш	-25 -	_ ∑ ტ	Description Poorly graded SAND (SP), medium dense, dark gray, wet,	S	S9		8	₽ 78	<u>~</u> :	∑ ∪ 0 9	<u> </u>			Rem	arks	-
-14.78	26		SAND is fine to medium, frequent white shell fragments, slight cementation. [MARINE SAND]	X		4		,,				000				
	2		Grades very loose, with trace CLAY.		S10	5 6	22	100				\triangleright				
	27		Poorly graded SAND with CLAY (SP-SC), medium dense, brown to yellowish brown, wet, SAND is fine to medium.	7X		12						20				
-16.78	28		[COLMA SAND]			10										
	29		Poorly graded SAND (SP), medium dense, dark yellowish brown, fine to medium, with light gray streaks.									MANNA				
-18.78	30		3 · 3 · 3 · 3 · 3									20				
10.70				M	S11	12 21	52	78				DODDO				
	31		31.0', grades reddish brown with yellowish brown mottling,	E		31										
-20.78	32		fine. 31.5', grades dark yellowish brown.	M	S12	14 26	52	100				200				
	33		32.8', 1" layer of iron-oxide staining.	\mathbb{A}		26						20				
-22.78	34		Grades very dense.													
-22.10	34											DODDODDODD				F
	35		Grades very fine.	V	S13	28	88	83				20				
-24.78	36			Λ		42 46						200				
	37			V	S14	12	58	100								
-26.78	38			\mathbb{N}		23 35						00000				
-20.76	30											200				
	39											DODDO				
-28.78	40		Grades with iron-oxide stained seams up to 1/2" thick.	h	S15	27	6/11	"88								
	41			X		46 50/5"	0, 1 .					20				
-30.78	42		41.5', grades grayish brown.		S16		8/10.:	51'00								
	42		42.5', grades yellowish brown with frequent iron-oxide	X		38 50/										
11/3	43		staining (up to 1" thick).			4.5"						20				
-32.78	44															
KMA	45		Crades dark vallewish brown clean van fins	L												
요 -34.78	46		Grades dark yellowish brown, clean, very fine.	M	S17	35 50	98	83				20				
-54.76	40			E	S18	48 15	80	100								
CAL	47		47.41	IX.	310	31 50/	11.5"	100								
-36.78	48		47.4', grades gray and iron-oxide stained seam (1/2" thick).	1		5.5"	\vdash					20				
LIBA	49															
-38.78	50															
-30.76	50		Grades with dark gray mottling.	X	S19	33 50/6"	50/6"	67				200				F
2-08.	51			\downarrow	S20	14	60	100				20				
÷ -40.78	52		51.9', 1" thick heavily oxidized layer, occasional pocket of	X		25 35										
FOG	53		weakly cemented SAND.			- 55										
48 40 70												20				
⁴ -42.78	54		CLAYEY SAND (SC), dense, olive gray, moist, fine.													
-34.788 -34.78 -	- 55 -	V /	(continued)							l	1	<i>(</i>)	I			
			Department of Transportation			REPOR BORI			`\r	ח				H	IOLE ID ESB-R1	
AMA AMA	K		Division of Engineering Services		Г	DIST.	С	OUN		RO	JTE	POS	STMILE	E	A	
	4	7	Geotechnical Services		F			S.F. R BR	IDGF	10 NAME	1	8.3	/9.4	1	63701	
IKAN						Doyle	Dri	ve F	Repla	aceme	nt Proj	ect		חאדר	CULT	т —
Z-A-C-A-C-A-C-A-C-A-C-A-C-A-C-A-C-A-C-A-						34-16	5L	VIDER	`	T. Car	roll			DATE 11-3-0	SHEE	f 4

				Ţ					Т		T							Т
ELEVATION (ft)	£			Sample Location	Sample Number	e In	Foot	(%)		(6) (4)	Dry Unit weignt (pcf)	Shear Strength (tsf)	thod	u di				
VATIC	DEPTH (ft)	rial Jics		le Lo	le Nu	Blows per 6 In	Blows per Foot	Recovery ((%)	ure ent (%)	N JIII	r Stre	Drilling Method	Casing Depth				
ELE	DEP	Material Graphics	Description	Sam	Samp	Blows	Blows	Reco	RQD (%)	Moisture Content ((pag)	Shea (tsf)	Drillin	Casir	Rer	narks		
	- 55		CLAYEY SAND (SC), dense, olive gray, moist, fine. 55.4', grades dark greenish gray.	_	321	15	58	78					20					Ī
-44.78	56		55. 1, grades dan greensh graf.			25 33												Ē
	57			\bigvee_{i}	S22	14 17	40	72					200					E
-46.78	58			1		23							<u> </u>					E
	59																	E
-48.78	60																	E
-40.70			Grades with frequent decomposed vegetation (up to 1/8" diameter).	X	S23	13 16	44	78										E
	61				204	28	45	78										E
-50.78	62		SILTY SAND (SM), very dense, olive gray, moist, very fine, occasional fine subrounded GRAVEL.	\bigvee_{i}	S24	12 20	45	78										Ē
	63			1		25												E
-52.78	64	∄ 											000000000000000000000000000000000000000					E
	65		Death and d CAND with CHT/CD CAN death alive and															E
-54.78	66		Poorly graded SAND with SILT (SP-SM), dense, olive gray, wet, very fine.	X	S25	21 31	67	89										E
010				\ \ \ !	S26	36 11	28	78					2					E
	67		Lean CLAY with SAND (CL), hard, light olive gray, moist, with frequent pockets of iron-oxide staining up to 1/4" diameter.	Д		12 16			Ī	66.5		PP = >2.25	200					E
-56.78	68		\[OLD BAY CLAY]			10												E
	69		dry, strong cementation. 69.0', shells in cuttings.										000					E
-58.78	70		Lean CLAY with GRAVEL (CL), medium stiff, yellowish brown, moist, frequent shell fragments, GRAVEL is fine,	1	327		27	83										
	71		subangular, with coarse to fine SAND.	X)	J	8 11 16												E
-60.78	72			\\	528	4	36	67										E
	73		Grades without shells; grades with increase in GRAVEL content; grades with pockets of iron-oxide staining (1/4"			12 24												
9			\(\diameter).\) Poorly graded SAND (SP), dense, yellowish brown, dry,										DODDODDDDDDD					
-62.78	74		strongly cemented, with seams (up to 1/2" thick) of iron-oxide staining, trace fine GRAVEL. [ALLUVIUM]															
	75		CLAYEY GRAVEL (GC), very dense, yellowish brown, moist,		§29 ₁	5 <u>0/3.5</u> 5	Q/3.5	<u>"86</u> /										E
-64.78	76		GRAVEL is sandstone fragments, angular, with occasional iron-oxide staining, predefined fracture planes, crumbles under moderate hand pressure. [RESIDUAL SOIL]	*	530	\$0/2.5#	Q/2.5	(80/					000					E
	77		CLAY in cuttings.															E
-66.78	78		on a saturge.										000					E
	79																	E
00.70													WWW	Straight	drill to 80	', rig chatt	er	E
-68.78	80		SEDIMENTARY ROCK (Sandstone), yellowish brown, fine to medium grained, massive, moderately weathered,		C31			93	81				M					E
7,00	81	: :	moderately hard, moderately fractured, common quartz vein filling, frequent healed fractures, fractures commonly filled										\Diamond					E
-70.78	82	= : •	with dark mineral precipitate, and/or disseminated dark mineral grains throughout (less than 1%).															F
	83		·	1.1	232			100	87									F
72.78	84	 ::						.55	01				M	Clicht of	oughing o	+ Q/I'		
	-85												\Diamond	Silgrit Si	oughing a	ι O '1		Ē
-62.78 -64.78 -66.78 -70.78	55		(continued)		15		T T1T	1.5							1.	IOI E ID		_
			Department of Transportation		В	EPOR ORII	NĢ I	REC								HOLE ID ESB-R	1	
			Division of Engineering Services		D 4	IST.		3.F.	ITY		101		PC 8.3	STMILE 3/9.4		EA 163701		
			Geotechnical Services		P	ROJEC Ooyle	T OF Driv	R BR	IDGE Repl	NAM acen	E nen	t Proje	ect					
Y					В	RIDGE	NUN				PARE	D BY			DATE 11-3-	08 SH	EET of 4	
											- 4:11	~ · · ·					- '	

ELEVATION (ft)	³DЕРТН (ft)	Material Graphics	Description	Sample Location Sample Number	Blows per 6 In	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing D B B Remarks
-74.78	86		SEDIMENTARY ROCK (Sandstone), yellowish brown, fine to medium grained, massive, moderately weathered, moderately hard, moderately fractured, common quartz vein filling, frequent healed fractures, fractures commonly filled with dark mineral precipitate, and/or disseminated dark mineral grains throughout (less than 1%).									$\rangle \times \Diamond \times \langle$	
-76.78	88		88.0' - 89.0', fractures dip 25°4 with additional random orientations, including near vertical healed intensely fractured zone.	C33			91	20				\ \ \ \ \ \	
-78.78	90											$\rangle \times \Diamond \times$	
-80.78	92		Healed, very closely fractured zone, fractures dipping subhorizontal 25°.	C34			98	0				$\Diamond \times \Diamond \times$	End Box 1 at 92.5'
-82.78	94		Grades gray to greenish gray, moderately to slightly weathered.									$\langle \Diamond \times \Diamond \rangle$	
-84.78	96 97			C35			100	43					
	98		Borehole terminated at a depth of 98 feet on 12/6/2007.									<u> </u>	
-88.78	99 100 101		See Boring Record Legend for soil classification chart and key to test data and sampler type.										
-90.78													
-92.78													
	106												
-96.78	108												
-98.78	110												
-100.78													
-102.78													
		1	Department of Transportation Division of Engineering Services	_ E	REPOR BORI DIST.	NG I	REC COUN S.F.	ITY	RD	ROU 101	TE	PO 8.3	HOLE ID ESB-R1 ISTMILE EA 3/9.4 163701
	\leftarrow	7	Geotechnical Services	F	PROJE	CT OF	R BR	IDGE	NAN	ИΕ	t Proje		'